CLAIMS

1-32. (canceled)

33. (currently amended) A network device for a communication network, the network device comprising:

(a) a database table adapted to store one or more sets of one or more parameters, each set corresponding to a different identifier for a corresponding network device of the communication network; and

(b) a receiver adapted to:

(1) receive a first data packet from a first transmitter, the first data packet comprising a training sequence ~~preamble~~, a header, and a payload;

(2) receive a first auxiliary coding corresponding to only the first data packet, wherein:

the first auxiliary coding identifies a first identifier;

the first auxiliary coding is different from the training sequence ~~preamble~~; and

the first identifier is different from the training sequence ~~preamble~~;

(3) recover the first identifier from the first auxiliary coding;

(4) retrieve a first set of one or more parameters from the database table based on the first identifier; ~~and~~

(5) process at least a portion of the first data packet based on the first set of one or more parameters;

(6) receive a second data packet from a second transmitter, the second data packet comprising a training sequence, a header, and a payload;

(7) receive a second auxiliary coding corresponding to only the second data packet, wherein:

the second auxiliary coding identifies a second identifier;

the second auxiliary coding is different from the second data packet's training sequence;

the second identifier is different from the second data packet's training sequence;

(8) recover a second set of one or more parameters from the database table based on the second identifier; and

(9) process at least a portion of the second data packet based on the second set of one or more parameters.

34. (previously presented) The network device of claim 33, wherein the communication network is a HomePNA network.

35. (currently amended) The network device of claim 33, wherein

the first auxiliary coding ~~is inserted within the training preamble~~ and the first data packet's training sequence form the first and second portion, respectively, of the first data packet.

36. (currently amended) The network device of claim 33, wherein:

the first auxiliary coding is encoded using frequency shift keying (FSK) modulation by frequency division;

the first auxiliary coding is encoded at a frequency different from a frequency for the first data packet;

receipt of the first auxiliary coding overlaps in time with receipt of the training ~~preamble~~ sequence of the first data packet.

37. (previously presented) The network device of claim 33, wherein the first auxiliary coding is received before the first data packet is received.

38. (currently amended) The network device of claim 33, further comprising a second transmitter adapted to:

(1) generate a ~~second~~ first transmitted auxiliary coding for transmittal with a ~~second~~ first transmitted data packet, wherein:

the ~~second~~ first transmitted data packet comprises a ~~second~~ first transmitted training ~~preamble~~ sequence, a ~~second~~ first transmitted header, and a ~~second~~ first transmitted payload;

the ~~second~~ first transmitted auxiliary coding is different from the ~~second~~ first transmitted training ~~preamble~~ sequence;

the ~~second~~ first transmitted auxiliary coding identifies a ~~second~~ first transmitted identifier;

the ~~second~~ first transmitted identifier is different from the ~~second~~ first transmitted training ~~preamble~~ sequence;

the ~~second~~ first transmitted identifier identifies the second transmitter; and

the ~~second~~ first transmitted auxiliary coding is different from the ~~second~~ first transmitted training sequence ~~data packet~~;

(2) transmit the ~~second~~ first transmitted auxiliary coding and the ~~second~~ first transmitted data packet to a second network device.

39. (currently amended) The network device of claim 38, wherein:

the second transmitter comprises a first RF front end; and

the second transmitter is adapted to transmit both the ~~second~~ first transmitted auxiliary coding and the ~~second~~ first transmitted data packet using the first RF front end.

40. (currently amended) The network device of claim 38, wherein:

the second transmitter comprises a first RF front end and a second RF front end;

the second transmitter is adapted to transmit the ~~second~~ first transmitted auxiliary coding using the first RF front end; and

the second transmitter is adapted to transmit the ~~second~~ first transmitted data packet using the second RF front end.

41. (previously presented) The network device of claim 33, wherein the first auxiliary coding comprises five or fewer symbols.

42. (previously presented) The network device of claim 33, wherein the first auxiliary coding comprises five or fewer bits.

43. (previously presented) The network device of claim 33, wherein the first identifier is a station identifier that uniquely identifies the first transmitter within the communication network.

44. (previously presented) The network device of claim 43, wherein:
the first data packet header includes a source address for the first transmitter; and
the first identifier is not the same as the source address for the first transmitter.

45. (previously presented) The network device of claim 33, wherein the first set of one or more parameters comprises at least one of a receiving-equalizer start value, a timing-recovery start value, an automatic-gain-controller start value, and an echo-canceller start value.

46. (previously presented) The network device of claim 33, wherein the first set of one or more parameters is based on moving averages, from past data packets received from the first transmitter, of one or more of a receiving-equalizer value, a timing-recovery value, an automatic-gain-controller value, and an echo-canceller value.

47. (previously presented) The network device of claim 33, wherein:
the first auxiliary coding is received as a first set of pulses received substantially immediately before the first data packet; and
the first identifier is encoded in the first set of pulses by varying timing intervals between adjacent pulses in the first set of pulses.

48. (previously presented) The network device of claim 33, wherein the database table is further adapted to store each different identifier corresponding to each set of one or more parameters.

49. (currently amended) A method implemented by a network device for a communication network, wherein the network device comprises a database table and a receiver, the method comprising:
(1) storing a first set of one or more parameters in the database table, the first set corresponding a first identifier for a corresponding network device of the communication network;
(2) receiving a first data packet comprising a training sequence ~~preamble~~, a header and a payload from a first transmitter;

(3) receiving a first auxiliary coding corresponding to only the first data packet, wherein:

the first auxiliary coding identifies the first identifier;

the first auxiliary coding is different from the training sequence ~~preamble~~; and

the first identifier is different from the training sequence ~~preamble~~;

(4) recovering the first identifier from the first auxiliary coding;

(5) retrieving the first set of one or more parameters from the database table based on the first identifier; ~~and~~

(6) processing at least a portion of the first data packet based on the first set of one or more parameters;

(7) receiving a second data packet from a second transmitter, the second data packet comprising a training sequence, a header, and a payload;

(8) receiving a second auxiliary coding corresponding to only the second data packet, wherein:

the second auxiliary coding identifies a second identifier;

the second auxiliary coding is different from the second data packet's training sequence;

the second identifier is different from the second data packet's training sequence;

(9) recovering a second set of one or more parameters from the database table based on the second identifier; and

(10) processing at least a portion of the second data packet based on the second set of one or more parameters.

50. (previously presented) The method of claim 49, wherein the communication network is a HomePNA network.

51. (currently amended) The method of claim 49, wherein the first auxiliary coding ~~is inserted within the training preamble~~ and the first data packet's training sequence form the first and second portion, respectively, of the first data packet.

52. (currently amended) The method of claim 49, wherein:

the first auxiliary coding is encoded using frequency shift keying (FSK) modulation by frequency division;

the first auxiliary coding is encoded at a frequency different from a frequency for the first data packet;

receipt of the first auxiliary coding overlaps in time with receipt of the training sequence ~~preamble~~ of the first data packet.

53. (previously presented) The method of claim 49, wherein the first auxiliary coding is received before the first data packet is received.

54. (currently amended) The method of claim 49, where the network device further comprises a second transmitter, the method further comprising:

(1) generating a ~~second~~ first transmitted auxiliary coding for transmittal with a ~~second~~ first transmitted data packet, wherein:

the ~~second~~ first transmitted data packet comprises a ~~second~~ first transmitted training sequence ~~preamble~~, a ~~second~~ first transmitted header, and a ~~second~~ first transmitted payload;

the ~~second~~ first transmitted auxiliary coding is different from the ~~second~~ first transmitted training sequence ~~preamble~~;

the ~~second~~ first transmitted auxiliary coding identifies a ~~second~~ first transmitted identifier;

the ~~second~~ first transmitted identifier is different from the ~~second~~ first transmitted training sequence ~~preamble~~;

the ~~second~~ first transmitted identifier identifies the second transmitter; and

the ~~second~~ first transmitted auxiliary coding is different from the ~~second~~ first transmitted training sequence ~~data packet~~;

(2) transmitting the ~~second~~ first transmitted auxiliary coding and the ~~second~~ first transmitted data packet to a second network device.

55. (currently amended) The method of claim 54, wherein:

the second transmitter comprises a first RF front end; and

the method comprises transmitting both the ~~second~~ first transmitted auxiliary coding and the ~~second~~ first transmitted data packet using the first RF front end.

56. (currently amended) The method of claim 54, wherein:
the second transmitter comprises a first RF front end and a second RF front end; and
the method comprises:
transmitting the ~~second~~ first transmitted auxiliary coding using the first RF front end; and
transmitting the ~~second~~ first transmitted data packet using the second RF front end.

57. (previously presented) The method of claim 49, wherein the first auxiliary coding comprises five or fewer symbols.

58. (previously presented) The method of claim 49, wherein the first auxiliary coding comprises five or fewer bits.

59. (previously presented) The method of claim 49, wherein the first identifier is a station identifier that uniquely identifies the first transmitter within the communication network.

60. (previously presented) The method of claim 59, wherein:
the first data packet header includes a source address for the first transmitter; and
the first identifier is not the same as the source address for the first transmitter.

61. (previously presented) The method of claim 49, wherein the first set of one or more parameters comprises at least one of a receiving-equalizer start value, a timing-recovery start value, an automatic-gain-controller start value, and an echo-canceller start value.

62. (previously presented) The method of claim 49, wherein the first set of one or more parameters is based on moving averages, from past data packets received from the first transmitter, of one or more of a receiving-equalizer value, a timing-recovery value, an automatic-gain-controller value, and an echo-canceller value.

63. (previously presented) The method of claim 49, wherein:

the first auxiliary coding is received as a first set of pulses received substantially immediately before the first data packet; and

the first identifier is encoded in the first set of pulses by varying timing intervals between adjacent pulses in the first set of pulses.

64. (previously presented) The method of claim 49, further comprising storing the first identifier in the database table.

65. (previously presented) The network device of claim 33, wherein the first set of one or more parameters is based on previously performed training results from a previous packet received from the first transmitter.

66. (previously presented) The method of claim 49, wherein the first set of one or more parameters is based on previously performed training results from a previous packet received from the first transmitter.

67. (currently amended) The network device of claim 33, wherein:

the training sequence ~~preamble~~ is independent of the first auxiliary coding; and

the training sequence ~~preamble~~ is independent of the first identifier.

68. (canceled)

69. (new) The network device of claim 33, wherein:

the first data packet's training sequence is substantially identical to the second data packet's training sequence; and

the first auxiliary coding is not substantially identical to the second auxiliary coding.